What is claimed is:

1. An optoelectronic sensor based on optodes, having a plurality of separate light-sensitive sensors (6) on a semiconductor substrate (10) and a light emitter (1) located in the center, wherein the light emitter (1) and the light-sensitive sensors (6) are covered by a transparent optode material, and the transparent optode material (4) is reflective on the side that faces away from the semiconductor substrate (10).

2. The optoelectronic sensor according to Claim 1,
wherein reflectivity is created via metal particles that are introduced into the transparent optode material (4).

3. The optoelectronic sensor according to Claim 1 or 2,
wherein the transparent optode material (4) is covered with an opaque material (9).

4. The optoelectronic sensor according to Claim 1, 2, or 3,
wherein the transparent optode material (4) is a polymer to which an indicator substance is added.

5. The optoelectronic sensor according to Claim 4,
wherein the indicator substance has pigment molecules.

6. The optoelectronic sensor according to Claim 3, 4 or 5,
wherein the opaque material (9) is a polymer.

7. The optoelectronic sensor according to one of the preceding claims,
wherein the light-sensitive sensors (6) having the sections of the optode material (8) that cover them are arranged as sectors and rotationally symmetrically around the light emitter (1).

8. The optoelectronic sensor according to one of the preceding claims,
wherein the semiconductor substrate (10) is an n-type silicon substrate and the light-sensitive sensors (6) are made of p-type silicon.

9. The optoelectronic sensor according to one of the preceding claims,
wherein the light-sensitive sensors (6) form photodiodes and the light emitter is an LED.

10. The optoelectronic sensor according to one of the preceding claims, wherein the optode material (4) is designed to detect nitrogen oxides or carbon monoxide.

11. The optoelectronic sensor according to one of the preceding claims, wherein the sensor is provided with oxidation means which are provided on a carrier material.

12. The optoelectronic sensor according to one of the Claims 1 to 10, wherein the optoelectronic sensor has a molecular sieve.

13. The optoelectronic sensor according to one of the preceding claims, wherein the optoelectronic sensor has barriers that are arranged between transmission branches.

14. The optoelectronic sensor according to one of the preceding claims, wherein the light emitter (1) can be operated using electrical pulses.

15. A gas sensor array according to one of Claims 1 to 14, wherein the optoelectronic sensor is used as the array element.